such as SD (Secure Digital) cards, MMC (Multimedia Card), memory stick, and SMC (Smart Media Card), while maintaining the rest of the system, including the memory, corelogic chipsets, in a fully on and functional state. Secondary power saving is applied to other PC subsystems to minimize power usage still further by putting them in an idle state.

[0040] For example, with a 500 MHz Pentium III CPU having about 225 MIPS of processing power and the decode algorithm requiring about 15 MIPS, the CPU will be operating less than 10% of the time. The other 90-95% of the time the CPU will be in a standby mode that requires only milliamps of current. Alternatively, the CPU can be run at a slower clock speed, which is usually an option provided by most of today CPUs, such as the AMD's Athlon CPU. Similarly the HDD is accessed during the time it takes to fill or refill the RAM. Thus, since the average song takes about 4 minutes to play and the RAM holds about 30 songs for 120 Mbytes, and since the HDD needs 1-5 seconds to spin up and only several seconds to load the song play list into RAM, the total access time for the HDD may be 30 seconds out of 120 minutes of play time; a ratio of 1:240, less than 0.5% of fall power operating time. These factors add to the power savings gained by using the mini-OS of the present invention instead of the full operating system of the portable computer. The result of the overall power consumption of the present invention is very low when the portable computer is in the music play mode, and that directly translates into the battery maintaining a useful charge level for a much longer time than allowed by the prior art. As those skilled in the art will recognize, the compressed music data of this invention may reside on a hard disk, on other magnetic (e.g., tape) media, optical (e.g., CD-ROM) media, flash media (e.g., SD cards, MMC, memory stick, SMC), or any other storage medium. **FIG. 3** is a generalized overall block diagram of an exemplary system **31** consistent with one embodiment of the present invention. The majority of the blocks in system **31** are components known in the art and are generally included in all PC computers for producing sound through the speaker of the computer. Shown here is a system clock **56**, which, for simplicity of **FIG. 3**, is not shown connected to the various components that need a clock signal. Additionally, CPU **26** is shown interfacing with North Bridge **28**. In turn, North Bridge interfaces with system RAM **30** and South Bridge **32**. Then South Bridge **32** interfaces with HDD **36** and CD-ROM **38**. Typically South Bridge **32** also interfaces directly with Codec **42** through AC_link; however, in the exemplary system **31** shown, special purpose circuit **40** (see discussion of **FIG. 4** below) is inserted between South Bridge **32** and Codec **42** to enable the playing of compressed digital audio in conjunction with the mini-OS **80** of the present invention from system RAM **30**, without affecting the ability to play non-compressed analog audio. In this configuration, the mini-OS **80** is stored in the BIOS, although those skilled in the art will recognize that the mini-OS could alternatively be stored in its own ROM (either within special purpose circuit **40** or external to it), a hard disk, or other media. Thus, AC_link, from South Bridge **32** is coupled to special purpose circuit **40**, which performs the decompression function as necessary, and then provides any audio signals to Codec **42** via AC_link_2. Codec **42** then performs the usual function on all signals received from special purpose circuit **40** and applies the audio signals to amplifier **44**, to be played on speaker **46** or headphones (not shown). In system **31**, AC_link_1 looks and behaves like the standard AC_link to South Bridge **32**, and AC_link_2 looks and behaves like the standard AC_link to Codec **42**, making it appear to those portions of the computer that audio functions are being performed as during normal (i.e., known in the art) audio play, thus having minimal or no impact on the operation of South Bridge **32** and Codec **42**. Also shown in **FIG. 3** are function switches **48**, small LCD display **34** and audio player power switch **54**, which function as described hereinbelow with reference to **FIG. 4**.

[0041] **FIG. 4** includes a detailed block diagram of the internals of special purpose circuit **40** and related details of the other portions of the computer that the special purpose circuit interfaces without showing all of the details of the rest of the computer system. Special purpose circuit **40** may be produced as an IC to minimize the PCB space needed to incorporate embodiments of the present invention into portable computers. South Bridge **32** is shown with the standard AC 97 controller **50** and LPC (low pin count) controller **52** to the left of special purpose circuit **40** with the standard bidirectional links AC_link_1 and LPC Bus between them, and the unidirectional IRQ (Interrupt Request) link from special purpose circuit **40** to South Bridge **32**. To the right, special purpose circuit **40** provides uncompressed audio to AC 97 Codec **42** via AC_link_2. Also, to the right, function keys **48**, and below LCD **34**, are each shown connected to special purpose circuit **40**. Additionally, **FIG. 4** includes system clock **56** connected to various components, and in the lower left, audio player power switch **54**. Power switch **54** is provided so that when the user initiates the player mode via power switch **54**, only the mini-OS (instead of the full system OS) is initiated, for use in a system consistent with the present invention.

[0042] Internal to special purpose circuit **40** are switches **60** that interface with both AC_link_1 and AC_link_2 and function in response to settings in an internal register of register block **66**, with switches **60** closed connecting AC-link, with AC_link_2 when the PC functions normally with the full system OS, and with switches **60** open when a system consistent with the present invention is employed. The LPC path is coupled to LPC interface. Switches **60** and AC_link_2 are coupled to state machine **64**, while another port of state machine **64** is coupled, via bus **74**, to the output of LPC interface **62**, as well as register block **66**, function key interface **68** and LCD interface **72**. A second port of register block **66** is also coupled to a third port of state machine **64**. Function keys **48** are coupled to function key interface **68**, and LCD **34** is coupled to LCD interface **72**. Also, function key interface **68** provides a signal to register block **66** when one of the function keys **48** is selected by the user. Audio player power switch **54**, which is operated by the user in the second step discussed above, may be used to activate the PC to operate as described hereinabove. Switch **54** is shown connected to the DC voltage source of the portable computer and not to any particular block in **FIG. 4**, since that connection varies depending on several factors controlled by the manufacturer of the computer on which an embodiment of the present invention is installed.

[0043] More specifically, the blocks within special purpose circuit **40** operate as follows: